



## **The 13<sup>th</sup> Annual Wiley Prize in Biomedical Sciences Awarded for Advancements in Oxygen Sensing Systems**

**February 4, 2014 (Hoboken, NEW JERSEY)** — The Wiley Foundation, part of John Wiley & Sons, Inc. (NYSE: JWa and JWb) — a global provider of knowledge-based services in areas of research, professional development, and education — today announced the winners of the 13<sup>th</sup> annual Wiley Prize in Biomedical Sciences.

This year's Wiley Prize will award the following Doctors for their advancements in the field of oxygen sensing systems:

- **Dr. William G. Kaelin, Jr.**, Investigator, Howard Hughes Medical Institute; Professor at Dana-Farber Cancer Institute and Brigham and Women's Hospital, Harvard Medical School;
- **Dr. Steven McKnight**, Professor & Chairman, Department of Biochemistry at the University of Texas Southwestern Medical Center;
- **Dr. Peter J. Ratcliffe**, Professor and Head, Nuffield Department of Medicine, University of Oxford; Member, Ludwig Institute for Cancer Research; and
- **Dr. Gregg L. Semenza**, Professor at the Johns Hopkins University School of Medicine.

These scientists discovered that all animal cells have the ability to sense oxygen and identified the molecular mechanism by which cells respond to dangerously low oxygen levels (hypoxia). The pathway identified by this research is an attractive target for the treatment of kidney disease, stroke, cancer, heart disease and chronic lung disease, among other conditions.

“Historically, oxygen sensing cells were thought to be limited to certain areas within the human body,” said Dr. McKnight. “But we now know that all nucleated cells in the body sense and respond to hypoxic conditions. When a lack of oxygen occurs, cells and genes can be affected in adverse ways. Disease is a common result.”

More specifically, Dr. Semenza discovered Hypoxia-Inducible Factor 1 (HIF-1), a protein that regulates gene expression, while Dr. Kaelin, Dr. McKnight and Dr. Ratcliffe helped to uncover the novel mechanism by which it is regulated by oxygen levels. In response to hypoxia, HIF-1 acts to induce the expression of hundreds of genes, which orchestrate adaptive responses to hypoxia, including the formation of more blood vessels. These discoveries have sparked efforts to develop new treatments for conditions associated with oxygen imbalance, including heart disease, stroke, and cancer.”

"Many diseases of the developed world are caused by inadequate oxygen delivery, said Dr. Kaelin. “Understanding how cells and tissues sense and adapt to low oxygen has created new

opportunities for treating such diseases, as well as for treating cancer, because cancers frequently coopt the oxygen sensing circuitry in order to grow."

"When evaluating all of the significant biomedical achievements from past years, one achievement that clearly stood out was this crucial advancement in oxygen sensing systems," said Dr. Gunter Blobel, Chairman of the awards jury for the Wiley Prize. "It will immediately help accelerate our understanding of how some of humanity's most critical conditions can be better managed and prevented."

Established in 2001, The Wiley Prize in Biomedical Sciences is awarded annually to recognize contributions that have opened new fields of research or have advanced concepts in a particular biomedical discipline. Among the many distinguished recipients of the Wiley Prize in Biomedical Sciences, five have gone on to be awarded the Nobel Prize in Physiology or Medicine.

"The work of this year's Wiley Prize recipients truly upholds the mission of the Wiley Prize and the Wiley Foundation," said Deborah E. Wiley, Chair of the Wiley Foundation. "It is our hope that these researchers will continue to make strides in the medical field, and that their innovations and leadership will inspire others to become involved in scientific research."

This year's award of \$35,000 will be presented to Dr. Kaelin, Dr. McKnight, Dr. Ratcliffe, and Dr. Semenza on April 11, 2014 at the Wiley Prize luncheon at The Rockefeller University. There, each recipient also will deliver an honorary lecture as part of the Rockefeller University Lecture Series.

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### **About The Wiley Foundation**

The Wiley Foundation and the Wiley Prize in Biomedical Sciences were established in 2001 to acknowledge the contributions of the scholarly community to the Company's success. Through this award Wiley seeks to recognize and foster ongoing excellence in scientific achievement and discovery.

### **About Wiley**

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